



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,790	08/20/2003	Thomas Poslinski	SONY-S0T5519.01	8031
7590 10/29/2007				
WAGNER, MURABITO & HAO LLP				
Third Floor				
Two North Market Street				
San Jose, CA 95113				
EXAMINER				
HUERTA, ALEXANDER Q				
ART UNIT		PAPER NUMBER		
4115				
MAIL DATE		DELIVERY MODE		
10/29/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/645,790

Applicant(s)

POSILINSKI, THOMAS

Examiner

Alexander Q. Huerta

Art Unit

4115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/302)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,10,15-18,21,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bumgardner et al. (United States patent Application Publication 2003/0206719) in view of Chan (United States patent Application Publication 2003/0159157), herein referenced as Bumgardner and Chan respectively.

Regarding **claim 1**, Bumgardner discloses a storage management for a video recorder. In addition, Bumgardner discloses that one or more tuner systems (45) are configured to allow the system to receive broadcast signals from multiple channels simultaneously up to the given number of tuners. As the broadcast input signal enters the system along line (40), it is tuned by one of the tuners (45) and transferred to volatile memory (46), which might include RAM, ROM, cache memory, or other volatile memory source, which reads on claimed "caching data from the selected channels simultaneously", as disclosed in paragraph [0046]. However, Bumgardner fails to disclose "accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization", however the examiner maintains that it was well known in the art to provide accessing data specifying a set of channels; accessing

data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization, as taught by Chan.

In a similar field of endeavor, Chan discloses systems, methods and apparatus for minimizing subscriber-perceived digital video channel tuning delay. In addition, Chan discloses that the next favorite channels logic (210) has access to a subscriber's favorite channels, which are channels the subscriber has shown interest in. These favorite channels can be created from subscriber input and stored in STB memory or derived from subscriber interaction with the channel surfing process, which reads on claimed "accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization", as disclosed in paragraph [0043].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner by specifically providing accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization, as taught by Chan for the purpose of reducing the time to retrieve favorite channels.

Regarding **claim 2**, Bumgardner in view of Chan discloses everything as claimed above (see claim 1), however Bumgardner fails to disclose "wherein the set of channels are favorite channels", however the examiner maintains that it was well known in the art to provide wherein the set of channels are favorite channels, as taught by Chan.

Regarding wherein the set of channels are favorite channels, Chan discloses that the next favorite channels logic (210) has access to a subscriber's favorite channels, which are channels the subscriber has shown interest in. These favorite channels can be created from subscriber input and stored in STB memory or derived from subscriber interaction with the channel surfing process, which reads on claimed "wherein the set of channels are favorite channels", as disclosed in paragraph [0043].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner by specifically providing the set of channels are favorite channels, as taught by Chan for the purpose of tailoring the channels to fit the users' preference.

Regarding **claim 3**, Bumgardner in view of Chan disclose everything as claimed above (see claim 1). In addition, Bumgardner discloses that for a live TV signal, FIG. 4 shows an example of a typical arrangement, where video signal (400) is transmitted to tuner (410) then to encoder (420) and to cache (430). After it leaves cache (430) it is decoded in block (440) and the outgoing video signal (450) is displayed on the television, which reads on claimed "performing a video operation to allow viewing the cached data", as disclosed in paragraph [0052].

Regarding **claim 10**, Bumgardner discloses a storage device (1620), a processing and control circuitry (1600), which reads on claimed "a memory unit; and a processor coupled to the memory unit, the processor for executing a method for caching data from multiple channels simultaneously", as exhibited in Figure 16. Bumgardner also discloses that that for a live TV signal, FIG. 4 shows an example of a typical

arrangement, where video signal (400) is transmitted to tuner (410) then to encoder (420) and to cache (430). After it leaves cache (430) it is decoded in block (440) and the outgoing video signal (450) is displayed on the television, which reads on claimed "selecting channels for which to cache data from channels selected for viewing", as disclosed in paragraph [0052].

In addition, Bumgardner further discloses that one or more tuner systems (45) are configured to allow the system to receive broadcast signals from multiple channels simultaneously up to the given number of tuners. As the broadcast input signal enters the system along line (40), it is tuned by one of the tuners (45) and transferred to volatile memory (46), which might include RAM, ROM, cache memory, or other volatile memory source, which reads on claimed "caching data for the selected channels simultaneously", as disclosed in paragraph [0046]. However, Bumgardner fails to disclose "accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization", however the examiner maintains that it was well known in the art to provide accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization, as taught by Chan.

Regarding accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization, Chan discloses that the next favorite channels logic (210) has access to a subscriber's favorite channels, which are

channels the subscriber has shown interest in. These favorite channels can be created from subscriber input and stored in STB memory or derived from subscriber interaction with the channel surfing process, which reads on claimed "accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization, as disclosed in paragraph [0043].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner by specifically providing accessing data specifying a set of channels; accessing data specifying a prioritization of the set of channels; selecting channels for which to cache data from the set of channels based on the prioritization, as taught by Chan for the purpose of reducing the time to retrieve favorite channels.

Regarding **claim 15**, Bumgardner in view of Chan disclose everything as claimed above (see claim 10). In addition, Bumgardner discloses a set-top box (10), which reads on claimed "wherein the electronic device is a set-top box device", as exhibited in figure 1. However, Bumgardner fails to disclose "wherein the set of channels are favorite channels", however the examiner maintains that it was well known in the art to provide wherein the set of channels are favorite channels, as taught by Chan.

Regarding wherein the set of channels are favorite channels, Chan discloses that the next favorite channels logic (210) has access to a subscriber's favorite channels, which are channels the subscriber has shown interest in. These favorite channels can be created from subscriber input and stored in STB memory or derived from subscriber

interaction with the channel surfing process, which reads on claimed "wherein the set of channels are favorite channels", as disclosed in paragraph [0043].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner by specifically providing wherein the set of channels are favorite channels, as taught by Chan for the purpose of allowing the user to prioritize their channels.

Regarding **claim 16**, Bumgardner discloses that one or more tuner systems 45 are configured to allow the system to receive broadcast signals from multiple channels simultaneously up to the given number of tuners. As the broadcast input signal enters the system along line 40, it is tuned by one of the tuners 45 and transferred to volatile memory 46, which might include RAM, ROM, cache memory, or other volatile memory source, which reads on claimed "a plurality of tuners; a memory storage device coupled to said plurality of tuners", as disclosed in paragraph [0046].

Regarding a memory-stored list of channels having a channel ordering, Bumgardner discloses using the GUI, the user may change the priorities of the shows either explicitly or by dragging and dropping saved shows in the GUI toward the front or back of a saved shows list thereby extending or reducing their time before being erased from the disk. In addition, one of ordinary skill in the art would recognize that the listing of shows and their order would be stored in memory located in the users' set-top box, which therefore reads on claimed "a memory-stored list of channels having a channel ordering", as disclosed in paragraph [0019].

Regarding a processor for selecting a first set of channels in response to viewing requests and for assigning a first set of tuners thereto, Bumgardner discloses that for a live TV signal, FIG. 4 shows an example of a typical arrangement, where video signal (400) is transmitted to tuner (410) then to encoder (420) and to cache (430). After it leaves cache (430) it is decoded in block (440) and the outgoing video signal (450) is displayed on the television. In addition, Bumgardner further discloses Processing and Control Circuitry (1600), TV Tuners (1610), which reads on claimed a processor for selecting a first set of channels in response to viewing requests and for assigning a first set of tuners thereto", as disclosed in paragraph [0052] and further exhibited in Figure 16.

Regarding wherein said memory storage device simultaneously caches outputs of said first and second set of tuners, Bumgardner discloses one or more tuner systems (45) are configured to allow the system to receive broadcast signals from multiple channels simultaneously up to the given number of tuners. As the broadcast input signal enters the system along line (40), it is tuned by one of the tuners (45) and transferred to volatile memory (46), which might include RAM, ROM, cache memory, or other volatile memory source, which reads on claimed "wherein said memory storage device simultaneously caches outputs of said first and second set of tuners", as disclosed in paragraph [0046]. However, Bumgardner fails to disclose "wherein said processor is also for selecting a second set of channels based on said list of channels and for assigning a second set of tuners thereto", however the examiner maintains that it was well known in the art to provide wherein said processor is also for selecting a second

set of channels based on said list of channels and for assigning a second set of tuners thereto, as taught by Chan.

Regarding wherein said processor is also for selecting a second set of channels based on said list of channels and for assigning a second set of tuners thereto, Chan discloses "the tuning manager (250) manages the tuning resources, including determining the tuning and decoding resources available. Based upon the resources available, the tuning manager (250) will select channels from the candidate list (245) and match the channels with the available hardware, which reads on claimed "wherein said processor is also for selecting a second set of channels based on said list of channels and for assigning a second set of tuners thereto", as disclosed in paragraph [0046].

Therefore, it would have been obvious to one of ordinary in the art at the time the invention was made to modify Bumgardner by specifically providing said processor for selecting a second set of channels based on said list of channels and for assigning a second set of tuners thereto, as taught by Chan for the purpose of allowing the user to watch another channel using picture-in-picture, while watching a different show on a separate channel.

Regarding **claim 17**, Bumgardner in view of Chan disclose everything as claimed above (see claim 16). In addition, Bumgardner discloses using the GUI, the user may change the priorities of the shows either explicitly or by dragging and dropping saved shows in the GUI toward the front or back of a saved shows list thereby extending or reducing their time before being erased from the disk. In addition one of ordinary skill in

the art would recognize that a priority list is a favorites list, which reads on claimed "wherein said list of channels is a favorite channel list and wherein said channel ordering is a priority ordering of said favorite channels list", as disclosed in paragraph [0019].

Regarding **claim 18**, Bumgardner discloses everything as claimed above (see claim 17). In addition Bumgardner discloses that a GUI (7), which includes an IPG (8) is provided and is selectively displayed on the output device (20), for instance when a user presses a specific button on a remote control (60). GUI (7) in conjunction with IPG (8) allows the user to control the PVR (5). In addition, Bumgardner further discloses using the GUI, the user may change the priorities of the shows either explicitly or by dragging and dropping saved shows in the GUI toward the front or back of a saved shows list thereby extending or reducing their time before being erased from the disk, which therefore reads on claimed "a remote data entry device and wherein said favorite channels list and said channel ordering are obtained from said remote data entry device", as disclosed in paragraphs [0045] and [0019] respectively.

Regarding **claim 21**, Bumgardner in view of Chan disclose everything as claimed above (see claim 16). However, Bumgardner fails to disclose "wherein said processor alters said second set of channels in response to a change in said channel ordering", however the examiner maintains that it was well known in the art to provide wherein said processor alters said second set of channels in response to a change in said channel ordering, as taught by Chan.

Regarding wherein said processor alters said second set of channels in response to a change in said channel ordering, Chan discloses the tuning manager (250) manages the tuning resources, including determining the tuning and decoding resources available. Based upon the resources available, the tuning manager (250) will select channels from the candidate list (245) and match the channels with the available hardware, which reads on claimed "wherein said processor alters said second set of channels in response to a change in said channel ordering", as disclosed in paragraph [0046].

Therefore, it would have been obvious to one of ordinary in the art at the time the invention was made to modify Bumgardner by specifically providing wherein said processor alters said second set of channels in response to a change in said channel ordering, as taught by Chan for the purpose of allowing the user to view favorite shows using picture-in-picture.

Regarding **claim 22**, Bumgardner in view of Chan disclose everything as claimed above (see claim 21). In addition, Bumgardner discloses using the GUI, the user may change the priorities of the shows either explicitly or by dragging and dropping saved shows in the GUI toward the front or back of a saved shows list thereby extending or reducing their time before being erased from the disk. In addition one of ordinary skill in the art would recognize that a priority list is a favorites list, which reads on claimed " wherein said list of channels is a favorite channels list and wherein said channel ordering is a priority ordering of said favorite channels list", as disclosed in paragraph [0019].

Claims 4-9,11-14,19,20,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bumgardner in view of Chan and further in view of Safadi et al (United States Patent Application Publication 2002/0009285), herein referenced as Safadi.

Regarding **claim 4**, Bumgardner in view of Chan disclose everything as claimed above (see claim 1). However, Bumgardner and Chan fail to disclose "receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel", however the examiner maintains that it was well known in the art to provide receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel, as taught by Safadi.

In a similar field of endeavor, Safadi discloses a personal versatile recorder; enhanced features, and methods for its use. In addition, Safadi discloses that since the presently available personal video recorders have only a single tuner, a further example of their shortcomings is that the buffer is cleared as the channel is changed, discarding the cached portion of the programming corresponding to the originally-viewed channel, which reads on claimed "receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in

response to receiving the switch operation, de-allocating the data for the first channel", as disclosed in paragraph [0012].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Shan by specifically providing receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel, as taught by Safadi for the purpose of freeing up system resources.

Regarding **claim 5**, Bumgardner, Chan and Safadi disclose everything as claimed above (see claim 4). However, the combination fails to disclose "wherein the first channel is a non-favorite channel", however the examiner maintains that it was well known in the art to provide wherein the first channel is a non-favorite channel, as taught by Safadi.

Regarding the first channel is a non-favorite channel, Safadi discloses that the user interface (118) permits the entry of a command to activate this simultaneous recording option. When this feature is activated, a content stream that is selected by one of the multiple tuners is stored within cache while another content stream that is selected by another of the multiple tuners is simultaneously stored onto the personal versatile recorder disk (106). Safadi further discloses that in even more advanced features, the personal video recorder can be programmed on a manual or timer-controlled basis to regularly record a user's favorite programs. In addition, one of ordinary skill in the art would recognize that selectively caching/storing a favorite

channel or a non-favorite channel is a matter of user preference, which therefore reads on claimed "the first channel is a non-favorite channel", as disclosed in paragraphs [0050] and [0009] respectively.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination by specifically providing wherein the first channel is a non-favorite channel, as taught by Safadi for the purpose of allowing the user to save their favorite channels and shows.

Regarding **claim 6**, Bumgardner in view of Chan disclose everything as above (see claim 1). However, Bumgardner and Chan fail to disclose "receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel", however the examiner maintains that it was well known in the art to provide receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel, as taught by Safadi.

Regarding receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel, Safadi discloses that when a first tuner of the plurality of tuners is tuned to an original channel to select original channel content for viewing, the original channel is the viewed channel. The original channel content is cached while presenting the original

channel content for viewing. A second tuner of the plurality of tuners may be tuned to at least one subsequent channel to select subsequent channel content for viewing while simultaneously caching the original channel content. By tuning the second tuner to the subsequent channel, the subsequent channel replaces the original channel as the viewed channel. However, the personal versatile recording apparatus continues caching the original channel content, which reads on claimed "receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel", as disclosed in paragraph [0018].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel, as taught by Safadi for the purpose of allowing the viewer to view the previously watched channel stored in the cache.

Regarding **claim 7**, Bumgardner, Chan and Safadi disclose everything as claimed above (see claim 6). However, the combination fails to disclose "wherein the first channel is a favorite channel", however the examiner maintains that it was well known in the art to provide wherein the first channel is a non-favorite channel, as taught by Safadi.

Regarding the first channel is a favorite channel, Safadi discloses that the user interface (118) permits the entry of a command to activate this simultaneous recording option. When this feature is activated, a content stream that is selected by one of the multiple tuners is stored within cache while another content stream that is selected by another of the multiple tuners is simultaneously stored onto the personal versatile recorder disk (106). Safadi further discloses that in even more advanced features, the personal video recorder can be programmed on a manual or timer-controlled basis to regularly record a user's favorite programs. In addition, one of ordinary skill in the art would recognize that selectively caching/storing a favorite channel or a non-favorite channel is a matter of user preference, which therefore reads on claimed "the first channel is a favorite channel", as disclosed in paragraph [0050].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination by specifically providing wherein the first channel is a favorite channel, as taught by Safadi for the purpose of allowing the user to save their favorite channels and shows.

Regarding **claim 8**, Bumgardner in view of Chan disclose everything as claimed above (see claim 1). However, Bumgardner fails to disclose "selecting the channels further comprises selecting a second channel with the highest priority of the channels that are not being cached; and caching the data further comprises using the caching capabilities from the first channel to cache the data for the second channel", however the examiner maintains that it was well known in the art to provide selecting the channels further comprises selecting a second channel with the highest priority of the

Art Unit: 4115

channels that are not being cached; and caching the data further comprises using the caching capabilities from the first channel to cache the data for the second channel, as taught by Chan and Safadi respectively.

Regarding selecting the channels further comprises selecting a second channel with the highest priority of the channels that are not being cached, Chan discloses the tuning manager (250) manages the tuning resources, including determining the tuning and decoding resources available. Based upon the resources available, the tuning manager (250) will select channels from the candidate list (245) and match the channels with the available hardware, which reads on claimed "selecting the channels further comprises selecting a second channel with the highest priority of the channels that are not being cached", as disclosed in paragraph [0046].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner by specifically providing selecting the channels further comprises selecting a second channel with the highest priority of the channels that are not being cached, as taught by Chan for the purpose of allowing the user to view a separate second channel while using picture-in-picture.

Regarding caching the data further comprises using the caching capabilities from the first channel to cache the data for the second channel, Safadi discloses that the presently available personal video recorders have only a single tuner, a further example of their shortcomings is that the buffer is cleared as the channel is changed, discarding the cached portion of the programming corresponding to the originally-viewed channel, which reads on claimed "caching the data further comprises using the caching

capabilities from the first channel to cache the data for the second channel", as disclosed in paragraph [0012].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner by specifically providing caching the data further comprises using the caching capabilities from the first channel to cache the data for the second channel, as taught by Safadi for the purpose of freeing up system resources.

Regarding **claim 9**, Bumgardner in view of Chan disclose everything as claimed above (see claim 1). In addition, Bumgardner discloses that by using the GUI, the user may change the priorities of the shows either explicitly or by dragging and dropping saved shows in the GUI toward the front or back of a saved shows list thereby extending or reducing their time before being erased from the disk, which reads on claimed "selecting a second channel with the lowest priority to remove caching capabilities from", as disclosed in paragraph [0019].

Regarding reassigning the caching capabilities to the first channel to satisfy the request to cache data for the first channel, Bumgardner discloses a priority is assigned to each saved show on the disk. As the disk fills and approaches the point where it will overflow, the video recorder deletes the lowest priority shows to make space for a current show, which reads on claimed "reassigning the caching capabilities to the first channel to satisfy the request to cache data for the first channel", as disclosed in paragraph [0018]. However, Bumgardner and Chan fail to disclose "receiving a request to cache data for a first channel for which data is not being cached", however the

examiner maintains that it was well known in the art to provide "receiving a request to cache data for a first channel for which data is not being cached", as taught by Safadi.

Regarding receiving a request to cache data for a first channel for which data is not being cached, Safadi discloses that content is recorded using a personal versatile recording apparatus. The personal versatile recording apparatus includes plurality of tuners, wherein the content is individually selectable by each tuner of the plurality of tuners, which reads on claimed "receiving a request to cache data for a first channel for which data is not being cached", as disclosed on paragraph [0018].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing receiving a request to cache data for a first channel for which data is not being cached, as taught by Safadi for the purpose of permitting the user to retrieve the original channel content from the cache for viewing.

Regarding **claim 11**, Bumgardner in view of Chan disclose everything as claimed above (see claim 10). However, Bumgardner and Chan fail to disclose "receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel", however the examiner maintains that it was well known in the art to provide receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel, as taught by Safadi.

Regarding receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel, Safadi discloses that since the presently available personal video recorders have only a single tuner, a further example of their shortcomings is that the buffer is cleared as the channel is changed, discarding the cached portion of the programming corresponding to the originally-viewed channel, which reads on claimed "receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel", as disclosed in paragraph [0012].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing receiving a switch operation from a first channel for which data is being cached to a second channel for which data is not being cached; and in response to receiving the switch operation, de-allocating the data for the first channel, as taught by Safadi for the purpose of freeing up system resources.

Regarding **claim 12**, Bumgardner in view of Chan disclose everything as above (see claim 10). However, Bumgardner and Chan fail to disclose "receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel", however the examiner maintains that it was well known in the art to provide receiving a switch operation from a

first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel, as taught by Safadi.

Regarding receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel, Safadi discloses that when a first tuner of the plurality of tuners is tuned to an original channel to select original channel content for viewing, the original channel is the viewed channel. The original channel content is cached while presenting the original channel content for viewing. A second tuner of the plurality of tuners may be tuned to at least one subsequent channel to select subsequent channel content for viewing while simultaneously caching the original channel content. By tuning the second tuner to the subsequent channel, the subsequent channel replaces the original channel as the viewed channel. However, the personal versatile recording apparatus continues caching the original channel content, which reads on claimed "receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the switch operation, maintaining the data that is being cached for the first channel", as disclosed in paragraph [0018].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing receiving a switch operation from a first channel to a second channel, wherein data is being cached for both the first and second channels; and in response to receiving the

switch operation, maintaining the data that is being cached for the first channel, as taught by Safadi for the purpose of allowing the viewer to view the previously watched channel stored in the cache.

Regarding **claim 13**, Bumgardner in view of Chan disclose everything as claimed above (see claim 10). In addition, **claim 13** is interpreted and thus rejected for the reasons set forth above in the rejection of claim 8. Claim 8 describes a method of caching data from multiple channels simultaneously and claim 13 describes an electronic device implementing the method. Thus, claim 13 is rejected.

Regarding **claim 14**, Bumgardner in view of Chan disclose everything as claimed above (see claim 10). In addition, Bumgardner discloses that by using the GUI, the user may change the priorities of the shows either explicitly or by dragging and dropping saved shows in the GUI toward the front or back of a saved shows list thereby extending or reducing their time before being erased from the disk, which reads on claimed "selecting a second channel with the lowest priority to remove caching capabilities from", as disclosed in paragraph [0019].

Regarding reassigning the caching capabilities to the first channel to satisfy the request to cache data for the first channel, Bumgardner discloses a priority is assigned to each saved show on the disk. As the disk fills and approaches the point where it will overflow, the video recorder deletes the lowest priority shows to make space for a current show, which reads on claimed "reassigning the caching capabilities to the first channel to satisfy the request to cache data for the first channel", as disclosed in paragraph [0018]. However, Bumgardner and Chan fail to disclose "receiving a request

to cache data for a first channel for which data is not being cached", however the examiner maintains that it was well known in the art to provide "receiving a request to cache data for a first channel for which data is not being cached", as taught by Safadi.

Regarding receiving a request to cache data for a first channel for which data is not being cached, Safadi discloses that content is recorded using a personal versatile recording apparatus. The personal versatile recording apparatus includes plurality of tuners, wherein the content is individually selectable by each tuner of the plurality of tuners, which reads on claimed "receiving a request to cache data for a first channel for which data is not being cached", as disclosed on paragraph [0018].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing receiving a request to cache data for a first channel for which data is not being cached, as taught by Safadi for the purpose of permitting the user to retrieve the original channel content from the cache for viewing.

Regarding **claim 19**, Bumgardner in view of Chan disclose everything as claimed above (see claim 16). However, Bumgardner and Chan fail to disclose "wherein said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, a first channel selected for viewing on a main screen of said display device; and a second channel selected for viewing as a picture-in-picture widow on said display device", however the examiner maintains that it was well known in the art to provide said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, a first channel selected for viewing on a main screen of said

display device; and a second channel selected for viewing as a picture-in-picture widow on said display device, as taught by Safadi.

Regarding said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, a first channel selected for viewing on a main screen of said display device; and a second channel selected for viewing as a picture-in-picture widow on said display device, Safadi discloses watching picture-in-picture, where the first signal is received from the primary tuner while the second is played back or retrieved from the personal versatile recorder disk (106). In addition, Safadi further discloses that an additional purpose of the secondary tuner (203) is to optionally allow for the respective recording and viewing of separate audiovisual programming offered at two distinct frequencies, i.e., on different channels, or from different sources such as streamed audiovisual content from the Internet and broadcast television programming, which therefore reads on claimed "said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, a first channel selected for viewing on a main screen of said display device; and a second channel selected for viewing as a picture-in-picture widow on said display device", as disclosed in paragraphs [0056] and [0047] respectively.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, a first channel selected for viewing on a main screen of said display device; and a second channel selected for viewing as a picture-in-picture widow on said

display device, as taught by Safadi for the purpose of allowing the user to view two separate channels at once.

Regarding **claim 20**, Bumgardner in view of Chan disclose everything as claimed above (see claim 16). However, Bumgardner and Chan fail to disclose "wherein said processor is also for altering said first and second set of channels in response to a channel change request regarding a channel to be viewed", however the examiner maintains that it was well known in the art to provide said processor is also for altering said first and second set of channels in response to a channel change request regarding a channel to be viewed", as taught by Safadi.

Regarding said processor is also for altering said first and second set of channels in response to a channel change request regarding a channel to be viewed, Safadi discloses a CPU (104) and further discloses that the personal versatile recording apparatus includes plurality of tuners, wherein the content is individually selectable by each tuner of the plurality of tuners, which reads on claimed "said processor is also for altering said first and second set of channels in response to a channel change request regarding a channel to be viewed", as disclosed in paragraph [0018] and further exhibited in figure 1.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing said processor is also for altering said first and second set of channels in response to a channel change request regarding a channel to be viewed, as taught by Safadi for the purpose of allowing the user to view two separate channels at once.

Regarding **claim 23**, Bumgardner and Chan disclose everything as claimed above (see claim 22). However, Bumgardner and Chan fail to disclose "wherein said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device", however the examiner maintains that it was well known in the art to provide said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, as taught by Safadi.

Regarding said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, Safadi discloses watching picture-in-picture, where the first signal is received from the primary tuner while the second is played back or retrieved from the personal versatile recorder disk (106), which reads on claimed "said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device", as disclosed in paragraph [0056].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bumgardner and Chan by specifically providing said plurality of tuners is also for providing picture-in-picture capabilities for output to a display device, as taught by Safadi for the purpose of allowing the user to watch two shows at once on the same screen.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Q. Huerta whose telephone number is 571-270-3582. The examiner can normally be reached on M-F(Alternate Fridays Off) 7:30-5:00 EST.

Art Unit: 4115

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jefferey Harold can be reached on 571-272-7519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander Q Huerta
Examiner
Art Unit 4115

October 24, 2007

/Jefferey F Harold/
Supervisory Patent Examiner, Art Unit 4115